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This study is examining abuse prevalence and its physical and mental health consequences in samples of 200 military women and 200 HMO women. At the beginning of the study's third year, we have completed 1138 civilian screenings, yielding 119 cases and 159 controls. Remaining interviews will be completed on an expanded sample of civilian women by 12/98. Civilian women are white European (WE) (47%) and African American (AA) (47%) with 6% other minorities. Generally, they are employed, have middle class incomes and a high school education or more. Lifetime prevalence rate for physical abuse is 37%: WE (28%) and AA (47%) and inversely proportional to income and education level. Annual prevalence rate of physical abuse is 3.4%: (WE: 2.3% and AA: 4.9%) and inversely proportional to age. Lowest annual rates occur among women with a postgraduate education level and/or annual incomes > 80K. Highest rates occur in divorced, separated, and widowed women and those bringing > 75% of HH income. A medical records review is under way for the cases and controls. Military sampling has been delayed due to a sudden turnover in the NNMC's principal investigator position and an heretofore unknown requirement of DOD sponsorship to research team. DOD sponsorship was initially withheld. Decision was reversed after JHU team addressed DOD issues. Currently, our request for names and addresses is being reviewed by DMDC. We also are in process of securing Portsmouth IRB approval to increase military sample beyond Bethesda.

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FOREWORD

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Gregory C. Cole 9/30/98

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INTRODUCTION

Under the directive of P.L. 103-160, this study will provide data on the prevalence and effects of physical and sexual assaults of a sample of active duty women and a sample of civilian women. For purposes of this proposal, battering (intimate partner abuse) is defined as repeated physical and/or sexual assault from an intimate partner within a context of coercive control.[1] Battering of military woman has ramifications for the health of these women and their ability to perform their mission responsibilities. It has been identified as a significant risk factor for a variety of physical and mental health problems seen frequently in military and civilian outpatient, primary health care settings.

The overall goal of this research is to develop a more comprehensive understanding of the physical and mental health consequences and associated medical costs of intimate partner abuse against women, using population based data from a sample of military women and a comparable sample of HMO enrollees. Such information is necessary to plan effective health care policies and interventions in military and civilian health facilities to reduce the human suffering and medical costs associated with intimate partner abuse. The aim of this study is to provide data on the prevalence of battering among military women in comparison to a civilian population and to examine the relationship of battering to a number of health problems, such as heart disease, STD's and women's reproductive and mental health. Both aims have relevance not only to the physical and mental health needs of this population but the need for health services for an evergrowing population of military woman. There is also concern that women in the military may be hesitant to seek care for mental health needs because of fears about adverse effects on their career.[2] Likewise, battered military women may not disclose abuse because of the requirement that suspected abuse be investigated through the Family Advocacy Programs,[3] and the incidence of hidden abuse is therefore not known. The effects of this reporting requirement in terms of increasing or decreasing consequent health problems and trauma also are not known.

To examine these issues, we are collecting medical record and self report data on intimate partner abuse, health conditions, and utilization of medical and mental health care, and our interview will ascertain military and civilian women's preferences for, experience with and concerns about intimate partner abuse screening and policies. Specific objectives of the study are as follows:

#1: To determine and compare the life time and annual prevalence of intimate partner abuse against women, including emotional, sexual and physical abuse, in a sample of military women and HMO enrollees and the relationship of this victimization to selected demographic factors.

#2: To determine and compare the medical care utilization patterns and costs of care for adult military and civilian women who are abused (cases) relative to the same in non-abused women (controls) over a three year period.

#3: To determine to what extent a history of intimate partner abuse is a risk factor for other medical conditions and symptoms, including: a) injuries and their medical sequelae; b) STD's/HIV; c) abnormal pap smears, PID, hysterectomies, and other gynecological problems; d) pregnancy-related problems; e) cardiovascular disease, including hypertension; f) irritable bowel syndrome and other stress related disorders; g) neurological disorders; h) problems with alcohol and other drugs; i) depression; and j) post traumatic stress disorder.

#4: To compare military and civilian women's reported medical conditions with those documented in the medical chart and examine the extent to which the correspondence between the

two varies between cases and controls and between military and civilian women.

#5: To determine the percentage of military women not disclosing abuse to health care providers because of mandatory reporting regulations in military health care settings, and to compare health outcomes (including trauma) of those abused military women who disclosed abuse and those who did not.

#6: To assess and compare abused and not abused military and civilian women's preferences for, experiences with, and concerns about health care provider policies on domestic violence screening and reporting.

#7: To provide workshops for military and civilian primary care personnel including identification and interventions for intimate partner abuse and dissemination of study results.

It is generally agreed that intimate partner abuse occurs in military families with at least the same prevalence as in the general civilian population, with estimates that as many as one third of all military women have experienced battering.[4] Military families may even be at higher risk because of stress associated with frequent transfers, separations, and isolation from extended family.[5,1] The incidence of reported intimate partner abuse among American women has been estimated at between 12-15%,[2] which for the almost 194,000 women in the military, translates to as many as 29,000 currently abused women in this population. It is estimated that approximately 90% of all domestic violence is battering of the female partner (wherein her violence is mostly self-defense), 6-7% is mutual violence, and 2-3% is battering of the male partner. The mutual violence also has ramifications for women's health.

However, the actual prevalence of battering among any sample of military women has never been determined. The only indirect evidence we have of difference in the incidence of battering in military women is indication of a higher homicide rate for military women than civilian women.[6] The primary risk factor for homicide for the general population of women is prior battering by a husband, intimate partner, ex-husband or ex-partner.[7] Thus, higher rates of homicide may indicate higher rates of intimate partner abuse. In two recent studies of primary care settings similar to an HMO, prevalence of battered women based on self-report rather than record review has ranged from 25% assaulted once during the past year and 7% assaulted often[8] to 44% with minor physical abuse and 28% with severe physical abuse.[9] The first study, conducted in a community-based family practice center, used only one item for determining physical violence and the response was added to the patient's chart unless she specifically asked for it to be omitted. The second study used several different items in an anonymous questionnaire in two primary care settings serving primarily uninsured, relatively poor patients. Both samples had approximately the same level of education and were living in different midwestern urban areas. Although limited to two studies, these findings demonstrate that women who receive care in HMO's suffer substantial levels of battering.

Battering has been determined as a significant risk factor for a variety of physical health problems frequently treated in outpatient, primary care settings. From the UNH national random survey data, it was found that severely battered women had almost twice the number of days in bed due to illness than other women and were significantly more likely to describe their health as fair or poor.[10] Injuries or the aftermath of injuries from abuse such as pain, broken bones, gunshot wounds, facial trauma (e.g. fractured mandibles), and tendon or ligament injuries are usually followed in outpatient settings.[11,12,13,14] Since battered women frequently report untreated loss of consciousness as a result of abuse, the chronic headaches often described by battered women[10] may be an inadequately diagnosed sequelae of neurological damage from battering. Undiagnosed hearing,

vision and concentration problems reported by battered women also suggest possible neurological problems from injury.[15,16] Other symptoms and conditions associated with physical violence from intimate partners, either from medical record data or self-report, include symptoms usually associated with stress such as chronic irritable bowel syndrome, sleep disorders and hypertension. These symptoms may indicate the degree of stress associated with intimate partner abuse.[17,18,19,20,21,22] Although the suppression of the immune system from chronic stress has been investigated in other populations, the role of stress in the etiology of the frequent communicable diseases of battered women and their children[20] has not been investigated. Another avenue for investigation is the relationship of stress from battering to lupis.

Mental health sequelae to abuse are significant and prompt women to seek health care services as frequently as physical health problems. The primary mental health response of women to ongoing intimate partner abuse is depression. In a sample of 394 adult women seeking medical care at a Family Practice medical center, depression was the strongest indicator of intimate partner abuse.[8] Gleason[23] found a significantly higher prevalence of major depression in 62 battered women than in the NIMH Epidemiological Catchment Area study. In that same study, there was a higher prevalence for major depression (63%) than for PTSD (40%). In comparison, depression in women in general is estimated at 9.3% point prevalence and 20 to 25% lifetime risk. In controlled studies from a variety of settings, battered women are consistently found to be more depressed than other women on various instruments.[24,25,26] In studies exploring the dynamics of depression in battered women, significant predictors include the frequency and severity of abuse, stress, and women's ability to care for themselves. These are more strongly related to depression than prior history of mental illness or demographic, cultural or childhood characteristics.[27,28,29] Another important correlate of depression in battered women is low self-esteem, often occurring as a result of women blaming themselves for the abuse. In a military sample of violent couples, a substantial portion (30-40%) of the women blamed themselves for the relationship violence.[30] Higher rates of post traumatic stress disorder (PTSD) have also been documented in battered women in shelters than in other women.[23,31] In a study of women Desert Storm veterans, combat related PTSD was significantly higher for those veterans with a history of sexual and physical abuse than veterans who reported no history of abuse after adjusting for sociodemographics, pre-combat pshychiatric history, and level of combat exposure.[32] However, the association of PTSD and battering has only recently been documented and primarily only in the violence literature rather than in mainstream health or mental health publications. Battered women would generally not complain of PTSD per se to a health care provider, but rather of sleep disorders or stress. Thus, there is substantial probability of misdiagnosis or lack of diagnosis of PTSD by primary care providers. Substance abuse is a frequent manifestation of PTSD as part of the avoidance dynamic in samples of traumatized people, including nonpregnant battered women.[33]

When battered women go unidentified and/or without appropriate interventions, they have increased health problems compared to women who are not battered, resulting in more frequent ED visits, other hospitalizations, and increased use of outpatient health care facilities.[17,32,13] Bergman, Brismar, and Nordin[34] found in an 18 year study period that 117 abused women had 70 hospital admissions for traumatic diagnoses and 284 admissions for non-traumatic diagnoses compared to 18 and 96 respectively for a matched control group. Battered women and their children were found to use HMO's 6-8 times more often than did controls in another study.[9] Goldberg and Tomlanovich[11] found that most of the patients who presented at the ED as a result of domestic violence were there

for medical complaints rather than trauma. Moreover, forty percent of battered women seen in an ED, the most expensive setting for health care delivery, had previously required medical care for the abuse.[35]

These findings further indicate the need to intervene for abuse with women in all health care settings and, consistent with public health approaches, intervene as early as possible. Effective early interventions not only reduce frequency and severity of trauma and stress, they also prevent further suffering and disability, and reduce long term physical and mental sequalae. The costs of personal suffering and disability for individuals and families with intimate partner abuse are also significant. According to a recent study conducted at Rush Medical Center in Chicago, and the only one we could find explicitly estimating costs of domestic violence against women, the cost of health care services averages $1,633 per patient per year. This translates to an estimated national cost of $857 million attributable to domestic violence.[36] These findings highlight the cost of domestic violence in dollars.

Several studies have documented a lack of appropriate identification of battered women in primary care settings,[11,8a] even though a survey of HMO patients indicated that routine medical inquiry about physical abuse was favored by 78% of patients and routine inquiry about sexual abuse by 68% of patients.[37] A recent survey of medical personnel in the Army Medical Corps found that 57% of the nurses, physicians and corpsmen surveyed reported having no professional experience with domestic violence.[38] Given the assumed equal prevalence in the miliary of battering, it can be surmised that these health care professionals are failing to identify battered women clients. It is not known if identification or lack of identification varies by ethnicity, but it has been documented that health care professionals are more likely to assess for child abuse if families are poor and/or of minority ethnic heritage.[39] In addition, a small survey of battered women in shelters who had been treated in Emergency Departments (n=74) found that 45% felt that the type of insurance they had influenced how the ED staff treated them and 22% felt that racism affected their treatment.[16] The parallel in the military would be an assumption on the part of health care professionals that enlisted women would be more likely to be battered. No such evidence exists; however both the comparative prevalence between enlisted women and officers and the comparative reporting by ethnicity are important areas of investigation.

EXPERIMENTAL METHODS

Population and Sampling: This study specifies that partner abuse is to be screened within a random sample of 2,000 active duty military women and 2,000 civilian women. The original sampling plan was to randomly select military women residing in a 100 mile radius of Washington D.C. and civilian women enrolled at two Kaiser Permanente medical facilities located in D.C. and a Maryland suburb of D.C. Sampling and screening has been completed for sixty percent of the 2000 civilian women (Appendix 1, Statement of Work, Objective 1, Task 2,5). Based on previous research and our work so far, we estimated correctly that 10% of the respondents would answer affirmatively to abuse within the past 7 years, to yield a sample size of 200 cases from the military sample and 200 cases from the HMO sample. Civilian respondents either identified as a case (a woman who experienced physical or sexual from an intimate partner within the past 5 years) or randomly selected as a control (a woman with no history of partner abuse) were asked to complete the detailed interview (Appendix 2) immediately following the screening or at another appointed time that was more convenient or safe.

We have recently expanded our sampling plan to a 100 mile radius of the Norfolk / Portsmouth naval base and to additional suburban locations in Maryland and Virginia (Statement of Work, Objective 1, Task 3). Our response rate for the civilian population turned out to be on average 14%, lower than originally projected (45%). Anticipating a similar response rate from the military population, we had decided to expand our recruitment to an additional naval base. Portsmouth Naval Hospital approved the IRB, pending authorization from the commanding officer.

To be eligible for the study, women must be 21 to 55 years old at the time of the interview and have been enrolled in their respective organization for a minimum of 3 consecutive years. These inclusion requirements were selected for two reasons. We believe the issues of violence among adolescent women (e.g., date rape) and among older women (e.g., elder abuse) are unique enough to require separate analyses and given limited resources, we chose to focus on adult women in the childbearing years because of the magnitude of the problem in this population. Second, we chose three years of continuous active duty (or enrollment in the HMO) as the criterion to assure that we had a consistent time period that was long enough to provide a more reliable indicator of medical care utilization than a single year, but not so long as to result in a sample biased toward the most stable, and presumably lower-risk women. The three year period comprises 1995 - 1997 for the HMO and 1996 - 1998 for the military.

We recruit the sample of civilian women by sending a letter of introduction and a telephone contact form to the prospective study participants, asking them to return the form if they are interested in participating in the study. Upon receipt of the contact form, we call the civilian women to request an interview. A verbal consent is administered immediately preceeding the interview. For the military population, the IRB granted by the Department of the Army (U.S. Army Medical Research Acquisition Acitivity) prescribed a two step mailing process. We send a letter of introduction and an address form to the military women. Upon receipt of the address form, we send a second more informative letter with a written consent form. If the prospective respondent is interested, she returns a signed consent form and informs of us a telephone number where she can be reached (Appendix 2).

Data Collection: There are two main components to the data collection for this study: 1) telephone survey; and 2) medical records review. Each is described below.

Telephone Survey. The survey is administered by telephone, consisting of three parts: 1) an introduction, including a privacy act notice; 2) a screening tool for determining case or control status; and 3) a detailed interview for all cases and a random sample of controls (Appendix 3). The interview instruments will be used to estimate prevalence of abuse in this population (Technical Statement of Work, Technical Objective #1), identify our cases and controls, and collect detailed information on cases and controls and their experiences with medical conditions and health care providers (Statement of Work, Technical Objectives #2-#6).

Interviewing was subcontracted to Quantech, a survey research firm located in Rosslyn, Virginia. In consultation with Johns Hopkins, Quantech has completed the following services: 1) programming of questionnaire into its Computerized Access Telephone Interviewing (CATI) system, 2) a training manual (Appendix 4) for conducting all phases of the telephone survey, and 3) training of interviewers and pre-testing of questionnaire (Statement of Work, Technical Objective #1, Task 4) .

A computered generated random selection procedure was put in place for the control group women (i.e., those who answer "no" to all of the abuse screening questions). Quantech developed a system to closely monitor response rates and sample accrual so that adjustments in the random sampling proportion can be made as necessary to achieve a sample of controls that is the same size as the cases. The rationale for a random sample of controls rather than a matched sample is twofold. First, it is a simpler, more cost-efficient design to implement. Second, we are more interested in estimating the outcomes of interest for a representative sample of women than we are in solely isolating abuse as a risk factor for certain outcomes.

Medical records. This data will be used to assess documented medical conditions and utilization of cases and controls. Using medical record data and subject responses to the interview, we will examine congruence and the prevalence of diagnoses research has shown to be related to partner abuse. All medical records for the 400 military and 400 civilian cases will also be manually reviewed for frequency of medical visits and any evidence of documentation of the abuse. Medical records review is currently underway for the 129 civilian cases and 159 civilian controls (Statement of Work, Objective #3, Task 2). We plan to collect additional utilization data from the HMO's computerized record system immediately following completion of the remaining interviews. (Statement of Work, Objective # 2, Task 3). For the military population, nurse researchers will be reviewing their medical records on site and returning them to their pre-designated storage files. We will assess utilization (and costs) from all medical care for selected conditions (ED) internal medicine and specialty clinics and hospitalization for each completed interview. Clinic visit CPT codes and hospital day services will be retrieved from the CHCS information system by the Research Assistant using a procedure developed by the Military Co-PI.

Costs per service unit received will be based on data provided by the military facilities and the HMO for the years 1995 to 1997. For the HMO population, when care is received from an HMO contractor, data come from bills submitted to the HMO by the contractor (e.g., hospitals, imaging and laboratory services, and part-time specialists). The HMO will provide a cost for each Kaiser Permanente service unit in current dollars for 1995, 1996 and 1997. Cost data will include all primary care and some specialty care, all clinic pharmacy services, all ambulatory surgical services, and routine laboratory and imaging services done in their clinics and ambulance services. HMO cost

data is scheduled for Spring 1999 (Statement of Work, Objective # 2, Task 3). Originally, we proposed to obtain costs per service unit from the participating military clinics through the Office of Third Party Reimbursement for NNMC and similar offices at the WRAMC and MGMC. However, further investigation of military medical cost data suggest that it may not be readily available and, also, that it may not reflect the marginal opportunity cost of these services. For these reasons, we intend to investigate the use of alternative data sources. For example, one approach we will consider is the use of Kaiser Permanente service cost estimates in place of military costs. Another approach we will consider is use of expenditure data from the 1987 National Medical Expenditure Survey (NMES). Cost data from either of these sources can be linked by ICD-9 diagnosis and procedure codes to military use data and used to produce health services cost estimates. Cost figures for both the military and HMO samples will be converted to constant purchasing power (1995) dollars using appropriate consumer price indices (CPI) (e.g., physician fee CPI for physician services, hospital room CPI for hospital services, etc.) that are available from the U.S. Department of Labor, Bureau of Labor Statistics in all years.

PROGRESS AND RESULTS

HMO: IRB renewal was granted by Kaiser Foundation Research Institute in March 1998. We recruited 60% of the projected HMO civilian population in August 1997 and completed interviewing in March 1998 (Statement of Work, Objective #1, Task 5). This interview session included a two month break following Christmas holiday season. Of the 10,599 women enrollees who received an invitational letter, 1,476 (13.9%) women agreed to be interviewed by phone. However, on telephone contact, 271 (18.3%) were not locatable and 67 (4.5%) refused to participate when phoned. The final sample consisted of 1,138 women (129 cases and 165 controls). Medical records review of these cases and controls is currently underway by Kaiser Permanente staff (Statement of Work, Objective #3, Task 2). Preliminary results (Statement of Work, Objective #1, Task 7)based on the 1138 screenings are presented in Tables 1, 2, and 3 (Appendix 5). Table 1 shows a racially balanced group consisting of equal proportions of White and African American women. Latinos and other minorities comprise a very small proportion of the women sampled. Overall, more than 75% of the women are fully employed with relatively high household incomes and education levels. Lifetime prevalence rates as shown in Table 2 are 37% for physical and/or sexual abuse. Highest prevalence rates occur among African American women, divorced women, widows, and women of lower education and income levels. Annual prevalence as defined by any abuse experienced in the year prior to the time of interview is 3.4% (Table 3). Annual abuse rates vary similarly to the prevalence rates by the above population characteristics.

Further recruitment has been scheduled for Fall 1998 to reach our original goal of 2000 civilian abuse screenings and 200 cases and 200 controls. We have received the names and addresses of approximately 20,000 women enrolled at three additional medical facilities. We randomly sampled 10,000 names. Letters to these randomly selected women are being mailed on Oct 2. Based on our 14% response rate from the first recruitment, we will be able to meet this goal with no problem.

Military: Considerable delays due to circumstances beyond our control have accrued since our initial recruitment efforts in September 1997. Without prior notification, our original military principal investigator had left the Navy. We immediately went to work on finding a replacement. The set of events that followed are outlined in chronological order:

January 1998	We were not able to identify a new investigator, CDR Nancy Dixon, until January 21, 1998.
February 1998	CDR Dixon wrote to the DMDC for names and addresses of active duty women who met our selection criteria. (In February 1998, we were invited by the Office of Family Policy, Support and Services to give a presentation on our study. At this time, representatives from Family Advocacy program gave us their input and protocols were revised accordingly. The FAP personnel advised us to request DMDC for names and addresses.)
March 1998	The Johns Hopkins team sent a letter to DMDC to follow-up on Dr. Dixon's letter.

April 1998	DMDC replied, informing us that we need to supply additional information according to a guideline of questions because our study crosses services.
May 1998	Our DMDC contact person informed us that we needed DOD sponsorship before they could review our request.
May 1998	JHU team sent letter to Office of Health Affairs, DOD requesting sponsorship.
July 1998	DOD denied sponsorship (Appendix 6).
July 1998	JHU team contacted contract specialist and scientific officer at Army Medical Research Materiels Command, funding agency for study, to ask for assistance on the matter. After several contacts, our army representatives for the study were not able to provide us with advice on how to proceed.
July 1998	Portsmouth IRB committee reviewed our request to expand study to the Portsmouth/Norfolk installation.
August 1998	Sent letter to DOD in response to their concerns about sponsoring our study (Appendix 6).
September 1998	Received verbal approval from DOD that will sponsor study. Awaiting official letter of approval.
September 1998	DOD sent report to DMDC to review our request for names and addresses.

These unforeseen delays (losing our principal investigator and requirement for DOD sponsorship) have pushed our timeline back by about one year. We having been working diligently on retrieving names of military women since February 1998. Currently, we are at the same point as we were in February when we originally sent a letter to DMDC. If there are no further problems, the last outstanding approval should come from DMDC by mid to late October. Once approval is received, we will immediately proceed with the request for names and addresses of active duty women and expedite the collection of data.

CONCLUSION

The preliminary results point out that domestic violence is present among educated and middle level income civilian women, a population comparable to active duty military women in the DC area. This holds importance for adequate screening and intervention in our health care delivery system. Because not all data has been collected for our civilian population and no data has been completed for the military population, we are unable to derive any further conclusions.

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APPENDIX 1

STATEMENT OF WORK

STATEMENT OF WORK

Technical Objective #1. To determine and compare the life time and annual prevalence of intimate partner abuse against women, including emotional, sexual and physical abuse, in a sample of military women and HMO enrollees and the relationship of this victimization to selected demographic characteristics.

Task 1:	Oct - Dec/96	Hire & train personnel. Develop communication protocols.
Task 2:	Jan - May/97	Obtain sample HMO enrollee women.
Task 3:	Mar - July/97	Finalize sample and accrue additions as needed.
Task 4:	Mar - July/97	Design sampling, manual, and train interviewers
Task 5:	Aug - Sept/97	Conduct screening and in depth interviews.
Task 6:	Oct/97	Deliver annual report Year 1
Task 7:	Oct - Nov/97	Analyze HMO data for prevalence and by demographic characteristics.
Task 8:	Oct/97-Jan/98	Obtain sample military women.
Task 9:	Dec/97-Mar/98	Submit manuscript- Journal of Family Violence.
Task 10:	Feb - Apr/98	Finalize sample and accrue additions as needed.
Task 11:	Feb - Apr/98	Design sampling, manual and train interviewers
Task 12:	May - July/98	Conduct screening and in-depth interviews
Task 13:	Aug - Sept/98	Analyze Military data for prevalence and by demographic characteristics.
Task 14:	Oct/98	Deliver annual report Year 2
Task 15:	Oct/98-Jan/99	Submit manuscript to - Military Medicine Publish article Military Hospital News Paper
Task 16:	July/99	Present paper at NNFAWI Annual Meeting
Task 17:	Oct/99	Deliver Year 3 Annual Report
Task 18:	3/2000	Destroy Codebook

Technical Objective #2. To determine and compare the medical care utilization patterns and costs of care for adult military and civilian women who are abused (cases) relative to the same in non-abused women (controls) over a three year period.

Task 1:	Oct - Dec/96	Hire & train personnel. Develop communication protocol.
Task 2:	Nov/97-Mar/98	Design system, manuals, train and retrieve HMO medical utilization data.
Task 3:	Apr - May/98	Analyze HMO medical utilization data.
Task 4:	Jan - Apr/98	Identify HMO costing standards.
Task 5:	Oct/98	Year 2 Annual Report.
Task 6:	Jan - Mar/99	Design system, manuals, train and retrieve military medical utilization data.
Task 7:	Apr - July/99	Analyze military and comparative data.
Task 8:	July -Sept/99	Submit manuscript to Medical Care
Task 9:	June -Sept/99	Identify military costing standards.
Task 10:	Oct/99	Deliver Year 3 Annual Report.

Task 11:	Oct - Nov/99	Compute costs for HMO and Military
Task 12:	Dec/99-Mar/00	Submit manuscript to Nursing Economic$
Task 13:	3/2000	Final Report & Destroy Codebook

Technical Objective #3. To determine to what extent a history of intimate partner abuse is a risk factor for other medical conditions and symptoms, including:[list of related conditions]

Task 1:	Oct - Dec/96	Hire & train personnel. Develop communication protocol.
Task 2:	Apr - May/98	Analyze HMO medical utilization data.
Task 3:	Apr - July/99	Analyze military and comparative medical utilization data.
Task 4:	Aug - Oct/99	Submit manuscript to Violence Against Women
Task 5:	3/2000	Deliver Final Report & Destroy Codebook

Technical Objective #4. To compare military and civilian women's reported medical conditions with those documented in the medical chart and examine the extent to which the correspondence between the two varies between cases and controls.

Task 1:	Oct - Dec/96	Hire & train personnel. Develop communication protocol.
Task 2:	Apr - May/98	Analyze HMO reported and documented medical conditions by cases and controls.
Task 3:	Apr - July/99	Analyze military and combined reported and documented medical conditions.
Task 4:	Aug - Oct/99	Submit manuscript to medical journal.
Task 5:	3/2000	Deliver Final Report & Destroy Codebook

Technical Objective #5. To determine the percentage of military women not disclosing abuse to health care providers because of mandatory reporting regulations in health care settings and to compare health outcomes including (trauma) for those abused military women who disclosed abuse and those who did not.

Task 1:	Oct - Dec/96	Hire & train personnel. Develop communication protocol.
Task 2:	July-Sept/98	Analyze military women's disclosure and outcomes data.
Task 3:	Oct/98	Deliver Year 2 Annual Report.
Task 4:	Nov/98-Jan/99	Submit manuscript to Military Medicine.
Task 5:	Oct/99	Deliver Year 3 Annual Report.
Task 6:	3/2000	Destroy codebook

Technical Objective #6. To assess and compare abused and not abused military and civilian women's preferences for, experiences with and concerns about health care provider policies on domestic violence screening and reporting.

Task 1:	Oct - Dec/96	Hire & train personnel. Develop communication protocols.
Task 2:	Aug - Nov/98	Analyze policy responses by group and selected demographic factors.

Task 3:	Jan/99	Present at APHA
Task 4:	Dec/98-Mar/99	Submit to health policy journal.
Task 5:	Oct/99	Deliver Year 3 Annual Report.
Task 6:	3/2000	Destroy Codebook

Technical Objective #7. To provide workshops for military and civilian primary care personnel including identification and interventions for intimate partner abuse and dissemination of study results.

Task 1:	Oct - Dec/96	Hire & train personnel. Develop communication protocols.
Task 2:	Oct/99-Apr/00	Develop and present workshops/grand rounds
Task 3:	3/2000	Deliver Final Report & Destroy Codebook

APPENDIX 5

HMO RESULTS

Table 3 Sample Characteristics of Female HMO Enrollees (N = 1,138)	
Characteristics	Sample Mean
Age Group	
21-29	6.4%
30-39	30.8%
40-49	45.2%
50-56	17.6%
Race	
White European	46.7%
African-American	46.7%
Other Minority	
Current Marital Status	
Married	58.8%
Divorced	12.9%
Seperated	2.9%
Widowed	5.5%
Never Married	19.9%
Education	
< HS Grad	1.4%
HS Grad or GED	21.6%
Trade School	2.3%
Some College	32.4%
College Grad	22.2%
College +	20.1%
Employment Status	
Full-time	76.8%
Part-time	13.3%
Unemployed	5.3%
Homemaker	4.6%
Household Income	
<$30K	17.1%
$30K-$50K	26.5%
$50K-$80K	30.9%
>$80K	25.5%
Percent respondent contributes to HH income	
<25%	13.5%
25%-49%	23.7%
50%-74%	24.1%
=75%	38.7%

*Includes 16 women with less than a high school education

Table 4
Lifetime Prevalence Rates of Emotional, Sexual, and Physical Abuse by Intimate Partners in a Sample of Female HMO Enrollees

Characteristics	N	Physical Abuse Only	Sexual Abuse Only	Both Physical and Sexual Abuse	Any Physical or Sexual Abuse
Total Sample	1,138	24.5%	3.1%	9.3%	36.9%
Age Group					
21-29	73	24.7%	2.7%	8.3%	35.7%
30-39	351	20.2%	3.7%	6.3%	30.2%
40-49	514	27.8%	2.7%	11.7%	42.2%
50-56	200	23.5%	3.0%	9.0%	35.5%
Race					
White European	531	18.6%	3.2%	5.6%	27.4%
African-American	531	31.3%	2.8%	13.0%	47.1%
Other minority	74	18.9%	4.1%	9.5%	32.5%
Current Marital Status					
Married	669	20.2%	2.2%	5.1%	27.5%
Separated or Divorced	180	35.0%	2.2%	23.3%	60.5%
Never Married	226	24.3%	5.3%	7.1%	36.7%
Widowed	63	41.3%	6.3%	22.2%	69.8%

*Includes 16 women with less than a high school education

Education					
= HS Grad[2]	287	35.5%	2.4%	11.1%	49.0%
Some College	467	25.9%	2.7%	13.6%	42.2%
4 Years College	251	18.3%	4.4%	4.8%	27.5%
Post Graduate	227	15.0%	3.1%	4.8%	22.9%
Employment Status					
Full-time	847	26.8%	3.3%	9.4%	39.5%
Part-time	147	15.6%	2.7%	8.2%	26.5%
Unemployed	109	17.4%	1.8%	11.0%	30.2%
Household Income					
<$30K	188	30.3%	3.3%	14.9%	48.5%
$30K - $50K	292	30.8%	3.8%	12.7%	47.3%
$51K - $80K	340	20.0%	3.2%	8.8%	32.0%
>$80K	281	21.0%	2.1%	3.9%	27.0%
Percent HH income contributed by respondent					
<25%	151	15.2%	2.6%	4.6%	22.4%
25-50%	265	18.5%	2.6%	7.2%	28.3%
51-75%	269	24.2%	3.3%	5.2%	32.7%
>75%	433	31.9%	3.5%	14.8%	50.2%

[2] Includes GED and Trade School Graduates and 16 women who did not complete high school.

*Includes 16 women with less than a high school education

Table 5
Annual Prevalence Rates of Emotional, Sexual, and Physical Abuse by Intimate Partners in a Sample of Female HMO Enrollees (1996)

Characteristics	N	Any Physical or Sexual Abuse	Emotional Abuse Only	Any Physical, Sexual, or Emotional Abuse
Total Sample	1,138	3.4%	5.5%	8.9%
Age Group				
21-29	73	6.8%	6.8%	13.6%
30-39	351	5.1%	5.7%	10.8%
40-49	514	2.9%	5.3%	8.2%
50-56	200	0.5%	5.5%	6.0%
Race				
White	531	2.3%	4.5%	6.8%
African-American	531	4.9%	7.0%	11.9%
Other Minority	74	1.4%	2.7%	4.1%
Current Marital Status				
Married	669	1.8%	5.1%	6.9%
Separated or Divorced	180	4.4%	5.6%	10.0%
Never Married	226	4.4%	6.2%	10.6%
Widowed	63	14.3%	7.9%	22.2%
Education				
= HS Grad*	287	3.5%	6.3%	9.8%
Some College	367	4.6%	6.3%	10.9%
4 years college	251	4.0%	3.2%	7.2%
Postgraduate	227	.9%	6.2%	7.1%
Employment Status				
Full-time	847	3.5%	5.3%	8.8%
Part-time	147	3.4%	6.8%	10.2%
Unemployed[3]	109	1.8%	4.6%	6.4%
Household Income				
<$30K	188	4.8%	5.3%	10.1%
$30K - $50K	292	6.2%	8.2%	14.4%
$51K - $80K	333	2.1%	3.5%	5.6%
>$80K	276	1.8%	6.0%	7.8%
Percent of HH Income from Respondent				
= 25%	151	2.6%	6.0%	8.6%
26%-50%	265	1.9%	4.2%	6.1%
51%-75%	269	2.6%	6.3%	8.9%
>75%	433	5.3%	6.0%	11.3%

[3] Includes homemakers, students, as well as laid off employees.
*Includes 16 women with less than a high school education

APPENDIX 6

DOD LETTERS

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

JUL 2 1998

Jacquelyn Campbell, Ph.D.
Johns Hopkins University
School of Nursing
525 N. Wolfe Street, Room 402
Baltimore, Md. 21205

Dear Dr. Campbell:

We have reviewed your proposed survey for Identification of Abuse and Health Consequences for Military Women and are unable to sponsor the survey at this time.

The survey appears to be well constructed and it is conceivable that it would provide valuable data on this population group and on the significant public health issue of violence against women. However, there are two issues which are problematic; 1) the survey is very long which may limit full compliance by participants, and 2) the population group being sampled (active duty women stationed in the National Capital Region (NCR)) is not representative of military women. The goal of the study, to provide incidence data for active military women, requires a representative sample. As stated in the design methods, the active duty women in the NCR are not representative of military women, therefore, the stated goal of the survey cannot be accomplished using this sampling methodology.

My points of contact are Dr. Margaret Knapp (Clinical and Program Policy) at (703) 681-1703, and Ms. Kim Frazier, (Information Management Control Officer) at (703) 681-1724.

Sincerely,

Gwendolyn A. Brown

Gwendolyn A. Brown
Deputy Assistant Secretary of Defense
(Health Budgets and Financial Policy)

JOHNS HOPKINS
UNIVERSITY

School of Nursing

525 N. Wolfe Street / Room 402
Baltimore, MD 21205

August 19, 1998

Gwendolyn A. Brown
Deputy Assistant Secretary of Defense
(Health Budgets and Financial Policy)
Office of the Assistant Secretary of Defense
Health Affairs
Washington, DC 20301-1200

Dear Ms. Brown:

We are writing in response to your letter of July 2, 1998 indicating that you are unable to sponsor our project, "Identification of Abuse and Health Consequences for Military Women". This decision was quite disappointing and we were relieved to learn from Ms. Frazier that your office would be willing to reconsider the proposal if we addressed the concerns you raised in your letter. We appreciate this opportunity to address these important issues.

The first concern was that the survey is very long, which may limit full compliance by participants. We now have experience with administering the identical survey to a sample of 1204 HMO enrollees in the Washington D.C. metropolitan area. Only 5.5% of women contacted declined to participate at the time of screening. Of those selected for the longer interview (n=295), 94.2% completed the survey in an average time of 25 minutes. Thus, our experience to date suggests that the study protocol can be implemented with minimal burden on respondents and will yield high completion rates.

The second concern raised is that the population group being sampled (active duty women stationed in the National Capital Region (NCR) is not representative of the entire population of military women. This is certainly true and we appreciate your pointing out that our stated goal may be misleading. The study aims to estimate prevalence (and consequences) of domestic abuse in a *sample* of active duty military women *as compared to a sample of demographically similar civilian women.* Thus, NCR seemed to be an excellent comparison group for women enrolled in the national capital region HMO facilities. Nevertheless, we would like to make the active duty military sample as representative as possible, given the resource constraints of our current funding. Therefore, we have examined the demographic characteristics of all active duty military women in DOD and compared them to active duty women in the NC region (using ethnicity, service, and rank). Women in the NC region compared to all of DOD are disproportionately officers (30% vs. 16%) and Marines (10% vs 5%), although they did not appear to differ substantially in ethnicity. To address this limitation and remain within our funded scope of work, we have found an additional recruitment site for the military sample. By adding active duty military women stationed in the Norfolk/Portsmouth area we can address these imbalances to a

large extent. In particular, the Norfolk sample has a larger proportion of women enlisted (83%). Although the Norfolk sample has a large sample of women in the Navy (61%) compared to DOD overall (25%), we are also substantially increasing the numbers of women in the Army and the Air Force who will be recruited by adding the Norfolk sample. (See attachments for more details.)

We wish to emphasize that: 1) considerable time and effort has already been expended for this study; 2) the original study aims are valid and the protocols approved by all relevant IRB's adequately protect human subjects; 3) we have collaborated closely with our military co-investigators, CDR Nancy Dixon, Assistant Director, Department OB/GYN at the NNMC and Mr. Michael Hoskins, Assistant Head, Family Advocacy Department, Commander, Naval Base, Norfolk, the nurse researchers at each site, CDR Margaret Ann Holder, NNMC and CDR Harold Tillman, Portsmouth Naval Hospital, and the Family Advocacy Office, Mr. David Lloyd, Family Advocacy Program Manager, OASD, Office of Family Policy, Support and Services and Sandra Rosswork, Ph.D., Navy Family Advocacy Program Manager; and 4) we will not be able to achieve the study aims, however, without access to a military sample. By adjusting our sampling plan as described above, we are confident that the final sample will be both comparable to the HMO sample and more representative of the active duty military population. Clearly, additional resources would allow us to expand our active duty military sample even further, in fact, we would be willing to pursue a contract to expand the study to other sites (such as Texas and/or San Diego where Dr. Campbell has done extensive military training on domestic violence) and/or to military dependents. However, without additional time and resources an expansion to other sites would not be possible. We believe that the benefits of the new knowledge gained from this study concerning the protection and promotion of women's health warrant your reconsideration of our request for sponsorship.

Additionally, we have briefed the Family Advocacy Program and have worked with them to tailor the questions regarding mandatory reporting to address their issues. If you think it would be helpful, our office would be delighted to schedule a meeting with yourself and/or Dr. Margaret Knapp, as she is responsible for Women's Health Policies to further discuss this proposal. Mr. David Lloyd, Family Advocacy Program Manager, OASD is also interested in attending this meeting. We hope this information has satisfactorily addressed your concerns and we would greatly appreciate an expedited response to our request for sponsorship. Please let us know if you need any additional information. Thank you for your consideration.

Sincerely,

Jacquelyn Campbell, PhD, RN, FAAN
Anna D. Wolf Endowed Professor
Associate Dean for Doctoral Education
Programs and Research

Sincerely,

Andrea Gielen, ScD
Associate Professor
Associate Director Injury Prevention Center

cc: Dr. Margaret Knapp
Ms. Kim Frazier

encls.

ACTIVE DUTY FEMALES IN A 100 MILE RADIUS OF DC
DOB BETWEEN 420102 & 770101 & WITH > 3 YEARS OF SERVICE

PAYGRADE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
ENLISTED	4175	70.4	4175	70.4
OFFICER	1755	29.6	5930	100.0

SEX	Frequency	Percent	Cumulative Frequency	Cumulative Percent
FEMALE	5930	100.0	5930	100.0

SERVICE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
ARMY	2202	37.1	2202	37.1
NAVY	1338	22.6	3540	59.7
MARINE CORPS	573	9.7	4113	69.4
AIR FORCE	1747	29.5	5860	98.8
COAST GUARD	70	1.2	5930	100.0

EDUCATION	Frequency	Percent	Cumulative Frequency	Cumulative Percent
UNKNOWN	59	1.0	59	1.0
3/4 YEARS/NO DIPLOMA	117	2.0	176	3.0
DIPLOMA/GED	2285	38.5	2461	41.5
1 YEAR COLLEGE	786	13.3	3247	54.8
2 YEARS COLLEGE	509	8.6	3756	63.3
BACHELORS	1009	17.0	4765	80.4
MASTERS	1055	17.8	5820	98.1
DOCTORATE	70	1.2	5890	99.3
GED	25	0.4	5915	99.7
ALTERNATE EDUCATION	15	0.3	5930	100.0

RACE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
UNKNOWN	23	0.4	23	0.4
WHITE	3418	57.6	3441	58.0
BLACK	2153	36.3	5594	94.3
OTHER	336	5.7	5930	100.0

RACE/ETHNIC	Frequency	Percent	Cumulative Frequency	Cumulative Percent
UNKNOWN	5	0.1	5	0.1
WHITE	3304	55.7	3309	55.8
BLACK	2138	36.1	5447	91.9
HISPANIC	239	4.0	5686	95.9
INDIAN/ALASKAN	24	0.4	5710	96.3
ASIAN/ISLANDER	120	2.0	5830	98.3
OTHER	100	1.7	5930	100.0

ETHNIC GROUP	Frequency	Percent	Cumulative Frequency	Cumulative Percent
UNKNOWN	93	1.6	93	1.6
MEXICAN	76	1.3	169	2.8
PUERTO RICAN	64	1.1	233	3.9
CUBAN	4	0.1	237	4.0
LATIN AMERICAN	21	0.4	258	4.4
OTHER HISPANIC	74	1.2	332	5.6
NORTH AMERICAN INDIAN	17	0.3	349	5.9
CHINESE	5	0.1	354	6.0
JAPANESE	12	0.2	366	6.2
KOREAN	15	0.3	381	6.4
INDIAN	5	0.1	386	6.5
FILIPINO	33	0.6	419	7.1
VIETNAMESE	3	0.1	422	7.1
OTHER ASIAN	21	0.4	443	7.5

POLYNESION	2	0.0	445	7.5
OTHER/ISLANDER	3	0.1	448	7.6
OTHER/NONE	5481	92.4	5929	100.0
GUAMANIAN	1	0.0	5930	100.0

ACTIVE DUTY FEMALES
IN 100 MILE RADIUS OF NORFOLK
DOB BETWEEN 420102 & 770101
WITH > 3 YEARS OF SERVICE

PAYGRADE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
ENLISTED	6661	83.2	6661	83.2
OFFICER	1347	16.8	8008	100.0

SEX	Frequency	Percent	Cumulative Frequency	Cumulative Percent
FEMALE	8008	100.0	8008	100.0

SERVICE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
ARMY	1480	18.5	1480	18.5
NAVY	4900	61.2	6380	79.7
MARINE CORPS	90	1.1	6470	80.8
AIR FORCE	1282	16.0	7752	96.8
COAST GUARD	256	3.2	8008	100.0

EDUCATION	Frequency	Percent	Cumulative Frequency	Cumulative Percent
UNKNOWN	84	1.0	84	1.0
3/4 YEARS/NO DIPLOMA	74	0.9	158	2.0
DIPLOMA/GED	5019	62.7	5177	64.6
1 YEAR COLLEGE	614	7.7	5791	72.3
2 YEARS COLLEGE	597	7.5	6388	79.8
BACHELORS	914	11.4	7302	91.2
MASTERS	590	7.4	7892	98.6
DOCTORATE	17	0.2	7909	98.8
GED	86	1.1	7995	99.8
ALTERNATE EDUCATION	13	0.2	8008	100.0

RACE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
UNKNOWN	24	0.3	24	0.3
WHITE	4402	55.0	4426	55.3
BLACK	3219	40.2	7645	95.5
OTHER	363	4.5	8008	100.0

RACE ETHNIC	Frequency	Percent	Cumulative Frequency	Cumulative Percent
UNKNOWN	10	0.1	10	0.1
WHITE	4143	51.7	4153	51.9
BLACK	3175	39.6	7328	91.5
HISPANIC	383	4.8	7711	96.3
INDIAN/ALASKAN	40	0.5	7751	96.8
ASIAN/ISLANDER	192	2.4	7943	99.2
OTHER	65	0.8	8008	100.0

ETHNIC	Frequency	Percent	Cumulative Frequency	Cumulative Percent
UNKNOWN	292	3.6	292	3.6
MEXICAN	109	1.4	401	5.0
PUERTO RICAN	84	1.0	485	6.1
CUBAN	8	0.1	493	6.2
LATIN AMERICAN	15	0.2	508	6.3
OTHER HISPANIC	167	2.1	675	8.4
ESKIMO	1	0.0	676	8.4
NORTH AMERICAN INDIAN	25	0.3	701	8.8
CHINESE	8	0.1	709	8.9
JAPANESE	11	0.1	720	9.0
KOREAN	16	0.2	736	9.2
INDIAN	4	0.0	740	9.2
FILIPINO	82	1.0	822	10.3

VIETNAMESE	9	0.1	831	10.4
OTHER ASIAN	29	0.4	860	10.7
MELANESAIN	1	0.0	861	10.8
MICRONESIAN	1	0.0	862	10.8
POLYNESION	5	0.1	867	10.8
OTHER/ISLANDER	5	0.1	872	10.9
OTHER/NONE	7135	89.1	8007	100.0
GUAMANIAN	1	0.0	8008	100.0

DEPARTMENT OF THE ARMY
US ARMY MEDICAL RESEARCH AND MATERIEL COMMAND
504 SCOTT STREET
FORT DETRICK, MARYLAND 21702-5012

REPLY TO
ATTENTION OF:

MCMR-RMI-S (70-1y) 28 Feb 03

MEMORANDUM FOR Administrator, Defense Technical Information Center (DTIC-OCA), 8725 John J. Kingman Road, Fort Belvoir, VA 22060-6218

SUBJECT: Request Change in Distribution Statement

1. The U.S. Army Medical Research and Materiel Command has reexamined the need for the limitation assigned to the technical reports identified on the enclosed list. Request the limited distribution statement for these documents be changed to "Approved for public release; distribution unlimited." These reports should be released to the National Technical Information Service.

2. Point of contact for this request is Ms. Judy Pawlus at DSN 343-7322 or by e-mail at judy.pawlus@det.amedd.army.mil.

FOR THE COMMANDER:

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